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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/166,701	10/05/1998	ISA ODIDI	SMI-005.01	9432

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EXAMINER	
GEMBEH, SHIRLEY V	
ART UNIT	PAPER NUMBER
1618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/166,701	ODIDI ET AL.	
	Examiner	Art Unit	
	SHIRLEY V. GEMBEH	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,7-9,11,12,23,28-31 and 33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,7-9,11,12,23,28-31 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/12/08 has been entered.

The response filed **9/12/08** presents remarks and arguments to the office action mailed **5/12/08**. Applicant's request for reconsideration of the rejection of claims in the last office action has been considered.

Applicant's arguments have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Status of Claims

Claims 1, 4, 7-9, 11-12, 23, 28-31 and 33 are pending in this office action.

Affidavit

The affidavits filed on 9/12/08 by Isa Odidi and Amina Odidi under 37 CFR 1.131 and or 1.132 has been considered but is ineffective to overcome the claim rejections set forth.

The showing of Data illustrated in Tables 1 and 2 is not persuasive because of the following reasons: The showing of the dissolution studies of the three types of cellulose derivatives with a model drug is a result of mere optimization. Indeed having a 1% of HPMC would give a different result when compared with 15% HPMC of the same cellulose therefore one would not expect the dissolution of 1% vs.15% to result in the same dissolution. Next, Controlled release is well known in the art, mixing of hydrophilic and hydrophobic polymers to have the required or desired release pattern is very well known in the art. One of ordinary skill in the art would have been motivated to identify among the varying polymers which combination would give the desired controlled release pattern, since it is well known in the art that the aim of these controlled release pharmaceutical formulations is to substantially approach zero order release. It is within the purview of the skilled artisan to optimize the combination of these hydrophilic and hydrophobic polymers based on the knowledge of the prior art in approaching zero order release. It is the Examiners position that once the concept is known or available, one of ordinary skill in the art would be motivated to find the optimum working range. Also it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine. See In re Aller, 220 F.2d 454 105 USPQ 233,235 (CCPA 1955). Thus, in sum, this is the

expected result of the teaching of the prior art and not a showing of an unexpected result.

Careful consideration has been given, but found not persuasive.

Claims Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4, 7-12, 23 and 28-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

New matter includes not only the addition of wholly unsupported subject matter, but may also include adding specific percentages or compounds after a broader original disclosure, or even the omission of a step from a method. In other words, the teaching supporting the amendment in instant claim 1.

The amendment of 58% by weight of mixture of hydroxyethyl cellulose and hydroxypropylmethylcellulose was not disclosed as filed. The specification recites about 1-60% by weight of hydroxyethylcellulose and about 1-75% by weight of hydroxypropylmethyl cellulose. No where is there a teaching of a about 1-58% by weight of hydroxyethylcellulose and hydroxypropylmethylcellulose.

The instant claims now recite limitations which were not clearly disclosed in the specification as-filed and now change the scope of the instant disclosure as-filed. Such limitations recited in the present claims, introduce new concepts and thus violate the written description requirement of the first paragraph of 35 U.S.C. §112. Applicant is required to cancel the new matter in the response to this Office action. Alternatively, Applicant is invited to identify sufficient written support in the original specification for the "limitations" indicated above.

Claims 1, 4, 7-9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “delivery of a selected pharmaceutically active substance”. It is not clear what is being selected.

It is unclear what is meant by the “about 0<10% of weight” of talc and magnesium stearate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 7-9, 11-12, 23, 28-31 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss US 4,252,786 (of record) in view of Jenkins 4,940,587.

The claims are directed to a controlled release pharmaceutical delivery composition which provides sustained delivery of a selected pharmaceutically active substance for a predetermined period of time, said composition comprising;
- about 1-50% by weight polymers of acrylic acid cross linked with polyalkenyl alcohols or divinyl alcohol;
- about 1 to 58% by weight of a mixture of hydroxyethyl cellulose and hydroxypropyl methylcellulose;
- about 0-10% by weight talc;

- about 0-10% by weight magnesium stearate; and
-about 1-80% by weight of a pharmaceutically active agent;
wherein said acrylic acid cross linked polymers, hydroxyethyl cellulose and hydroxypropyl methylcellulose, talc, magnesium stearate and pharmaceutically active agent are provided as a matrix.

Weiss teaches that with regards to instant claims 1, 9, 23 30 and 33(in parts), 4 and 8 a rate release medicament from a controlled release tablet comprising polymers of acrylic acid cross linked with polyalkenyl alcohols (as in claims 1 and 4). See col. 2, lines 40-46, such as Carbopol 934 the same agent employed in Example 1 of the specification (page 7, line 15) is less than 50% is within the claim limitation of 1-50% see col. 2, lines 47-54. Wherein the composition comprises hydroxymethyl cellulose, hydroxypropyl methyl cellulose, talc and ethyl cellulose also see table 3, col. 6, lines 8-24 as required by instant claims 1 and 8-9 where in the granulating and tableting aids are taught see col. 3, lines 25-55.

The active agent is assumed to comprise more than 1% of medicament. See col. 2, lines 64-68 and also col. 5 and 6 Examples 1 and 3-5. The granulating and tableting aids are taught at col. 3, lines 25-55. Less than 0 is interpreted that it can be omitted; however, the reference teaches the additives of talc and magnesium stearate see col. 3, lines 34-35. With regards to the matrix, the reference teaches the formation of tablet like matrix; see col. 2, lines 6, 24 and 47-48. The reference further teaches that the formulation is film coated with cellulose esters see col. 5-6 examples 1 and 3 and specifically for the teaching of film coating see col. 6, line 35-36 as required by instant

claims 7 and 28. The reference teaches that the formulation may contain lactose and microcrystalline cellulose see col. 3, lines 29-31 as required by instant claim 28 and 31.

Even though the reference teaches a mixture of hydroxypropylmethyl cellulose with other polymers as 1.5-1 (ethyl cellulose and hydroxypropylmethyl cellulose) it is silent in the teaching of the specific mixture of hydroxyethyl cellulose and hydroxypropylmethyl cellulose and the concentration. Even though Weiss also teaches various medicaments that may be used in the controlled release manner however fails to teach the specific drugs employed for the controlled release formulation.

Jenkins is added to show that the mixture of hydroxyethyl cellulose and hydroxypropycellulose is well known in the pharmaceutical controlled release art. Jenkins teaches that in a controlled release drug formulation the level of the hydroxyalkyl cellulose serves to control the release of the drug and the preferable mixture is hydroxypropylmethyl cellulose and hydroxyl ethyl cellulose (Natrosol 250 HX same as Applicants example 1in the specification) and may contain between 2-15% which is within the recited percentage 1-58% as required by instant claims 1, 9, 23, 30 and 33 in part. The reference further teaches the medicament is morphine and ibuprofen in a percent ratio of more than 1%, see col. 3, lines 18-20 and col. 5, lines 66-67 as required by instant claims 1, 9, 23 30 and 33.

One of ordinary skill in the art would have been motivated to combine the Weiss and Jenkins to formulate a controlled release drug that comprises an acrylic acid cross linked with polyalkenyl alcohol (Carbopol 934), comprising 2-15% of

hydroxypropylmethyl cellulose and hydroxyethyl cellulose in a matrix with magnesium stearate and talc because these agents are well known in the art of formulating a controlled release drug. As discussed above by Jenkins the level of the hydroxyalkyl cellulose serves to control the release of the drug, therefore based on the desired rate choose a mixture of the hydroxyalkyl cellulose based upon the rate of dissolution. Also, it is known in the art that that the higher aliphatic alcohol, together with the water soluble hydroxyalkyl cellulose, serves to control the release of the drug from the composition. The level of alcohol in the composition will therefore be determined by the rate of drug release required. Generally, however, the composition will contain between 5% and 35% (w/w), especially 10% and 30% (w/w), (as a proportion of the total dosage form weight) of the higher aliphatic alcohol. See Jenkins col. 2, lines 45-52. Also, controlled release formulation is well known in the art, mixing of hydrophilic and hydrophobic polymers to have the required or desired release pattern is very well known in the art. One of ordinary skill in the art would have been motivated to identify among the varying polymers which combination would give the desired controlled release pattern, since it is well known in the art that the aim of these controlled release pharmaceutical formulations is to substantially approach zero order release. It is within the purview of the skilled artisan to optimize the combination of these hydrophilic and hydrophobic polymers based on the knowledge of the prior art in approaching zero order release.

Accordingly all the components required for a controlled release formulation art taught in the prior art. One of ordinary skill in the art would have been motivated to formulate a controlled release pharmaceutical based on the teaching of the prior art to

include all the necessary agents because The terms "controlled release" and "delivery" are used in their broadest sense to include mechanisms such as diffusion, chemical and enzymatic reactions, dissolution, osmosis, targeting, as well as the utilization and manipulation of biological processes when this drug is in the system and based on the type of polymer used the drugs protect the drug from releasing during its passage through the body until it reaches its required site. Much of the relevant literature is very precise in that it either concentrates for example, on a specific type of polymer offering suitable transport characteristics for an individual permeant, or concentrates on a range of permeants transported through a single polymer type, or concentrates on a unique application. Therefore one of ordinary skill in the art would be motivated to explore which of the polymers known in the art would yield a better controlled release delivery of the drug.

As to the concentrations in the claims the skilled artisan would be motivated to modify. One of ordinary skill in the art would have been motivated to identify among the polymers which would give a controlled release, since it is well known in the art that the aim of these controlled release pharmaceuticals is to substantially approach zero order release. Thus within the purview of the skilled artisan to optimize based on the prior art knowledge. It is the Examiners position that once the concept is known or available, one of ordinary skill in the art would be motivated to find the optimum working range. Also it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine. See In re Aller, 220 F.2d 454 105 USPQ 233,235 (CCPA 1955).

The cited references make it obvious to one of ordinary skill in the art to make and use the claimed invention at the time it was made.

Withdrawn Claim Rejections - 35 USC § 103

Applicant's arguments with respect to claims 1, 4, 7-9, 11-12, 23, 28-31 and 33 have been considered but are moot in view of the new ground(s) of rejection above.

Claims 1,4,7-9, 11-12, 23, 28-31 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al, US 4,252,786 in view of Guley et al., US 4,309,405 (of record) taken with Kooichi et al. US 4,218,433 is withdrawn.

Maintained Double Patenting

Applicant's request that the Double Patenting rejection be held in abeyance until it is made permanent is noted but will be maintained in this Office Action and future Office Actions until withdrawn. Since this is not the only rejection remaining, the double patenting rejection is therefore maintained below.

Claims 1,4,7-9, 11-12, 23, 28-31 and 33 remain provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **1 - 22** of U.S. Patent Application No. **11/473,386**. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claims 1,4,7-9, 11-12, 23, 28-31 and 33 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims **1 - 28** of U.S. Patent No. **7090867**. Although the conflicting claims are not identical, they are not patentably distinct from each other. The reasons are as follows:

No claim is allowed.

Guley et al., US 4,309,405 (of record) and Kooichi et al. US 4,218,433 are cited to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHIRLEY V. GEMBEH whose telephone number is (571)272-8504. The examiner can normally be reached on 8:30 -5:00, Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL HARTLEY can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael G. Hartley/
Supervisory Patent Examiner, Art Unit 1618

/S. V. G./
Examiner, Art Unit 1618
10/27/08